

ABSTRACT

A method for forming a fine structure of metal fine particles includes a step [Fig.1(a)] of substituting a part of metal fine particles stabilized by a dispersion stabilizer desorbed when irradiated with an electromagnetic wave of high energy and/or high energy density and a dispersing agent from the surface of the metal fine particles when irradiated with an electromagnetic wave of a lower energy and/or a lower energy density and/or a compound having no bonding ability to the metal fine particles so as to prepare a colloidal solution of the metal fine particles, irradiating the colloidal solution with the electromagnetic wave of high energy and/or high energy density, and thereby improve the photosensitivity of the metal fine particles dispersed solution, and a step [Fig.1(b)] of irradiating the metal fine particles dispersed solution having the improved photosensitivity with an electromagnetic wave of a lower energy and/or a lower energy density, and fixing the metal fine particles to a desired fine structure corresponding to the irradiation with the electromagnetic wave of the lower energy and/or the lower energy density on the surface of a substrate.